

INDIANA DEPARTMENT OF TRANSPORTATION

INTER-DEPARTMENT COMMUNICATION  
Standards Section -- Room N642

March 18, 1999

**DESIGN MEMORANDUM No. 99-06**  
**TECHNICAL ADVISORY**

**TO:** All Design, Operations and District Personnel, and Consultants

**FROM:** /s/ Richard L. VanCleave  
Richard L. VanCleave  
Design Policy Engineer  
Technical Services Division

**SUBJECT:** Energy Absorbing Terminal

**EFFECTIVE:** Immediately through August 17, 1999, Letting

Recurring special provision 601-R-055 has been revised to permit the REACT 350 energy absorbing terminal as a contractor's alternate choice to the QuadGuard unit. A copy of the attached version of 601-R-055 as revised 3-17-99 must be used instead of an earlier version in each contract which includes energy absorbing terminal as a pay item. The location and design speed for each unit now must be incorporated into the special provision.

This revision to 601-R-055 does not affect the pay item code number, pay item name, nor contract quantities for energy absorbing terminal. Changes to the plans are not required.

RVC:sc  
Attachment

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## ENERGY ABSORBING TERMINAL

**DESCRIPTION.** This work shall consist of furnishing, assembling, and installing the energy absorbing terminal in accordance with the manufacturer's recommendations and 105.03.

**MATERIALS.** The energy absorbing terminal shall consist of either the QuadGuard System as manufactured by Energy Absorption Systems, Inc. or the REACT 350 as manufactured by Rodeway Safety Services, Inc. hereinafter referred to as energy absorbing terminal. The configuration of the terminal shall be as crash tested and approved in accordance with FHWA requirements.

Transition panels and all other necessary hardware required for bi-directional traffic protection shall be included in the installation, when the unit is installed at a location where traffic is passing the unit on both sides in opposite directions.

The terminal's nose cover shall be reflectorized as shown on the plans. The terminal shall be of the width shown on the plans at the backup. Its length shall be based on the design speed shown herein for each given location. The size of the concrete pad required for a particular size of terminal shall be in accordance with the manufacturer's recommendations.

### LOCATION

### DESIGN SPEED

**CONSTRUCTION REQUIREMENTS.** Assembly and installation shall be supervised or performed at all times by an installer trained and certified by the unit's manufacturer, and shall be in accordance with the manufacturer's recommendations at the locations shown on the plans. A copy of the installer's certificate shall be provided to the Engineer prior to the start of work.

The Contractor shall provide the Department with original copies of all necessary current manufacturer's installation manuals and shop drawings prior to beginning installation work. Shop drawings shall be a minimum of 560 mm by 865 mm (22 in. by 34 in.) in size. No installation work shall begin prior to the Department's receipt of such manuals and drawings. Such manuals and drawings will remain the property of the Department. If there is a discrepancy between shop drawings and the plans, the shop drawings shall govern.

In case of dispute regarding installation, the manufacturer shall provide a properly trained representative, directly employed by the manufacturer, to ensure that the installation is performed in accordance with the manufacturer's recommendations.

**METHOD OF MEASUREMENT.** This work will be measured per each energy absorbing terminal assembled and placed.

**BASIS OF PAYMENT.** This work will be paid for at the contract unit price per each for energy absorbing terminal without regard to the length required.

Payment will be made under:

#### **Pay Item**

#### **Pay Unit Symbol**

Energy Absorbing Terminal ..... EACH

The costs of all materials, equipment, labor, and incidentals necessary to complete the installation shall be included in the cost of this work.